LEGAL REQUIREMENTS FOR EMISSION STANDARDS IN DESIGNATED POLLUTANT PLANS FOR MERCURY EMISSIONS FROM COAL-FIRED ELECTRIC STEAM GENERATING UNITS

FEDERAL CLEAN AIR ACT

Sec. 111. [42 U.S.C. 7411] Standards of performance for new stationary sources.

(d)(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 110 under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 108(a) [or emitted from a source category which is regulated under section 112] [or 112(b)] but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.

(2) The Administrator shall have the same authority-

(A) to prescribe a plan for a State in cases where the State fails to submit a satisfactory plan as he would have under section 110(c) in the case of failure to submit an implementation plan, and

(B) to enforce the provisions of such plan in cases where the State fails to enforce them as he would have under sections 113 and 114 with respect to an implementation plan. In promulgating a standard of performance under a plan prescribed under this paragraph, the Administrator shall take into consideration, among other factors, remaining useful lives of the sources in the category of sources to which such standard applies.

Sec. 116. [42 U.S.C. 7416] Retention of state authority.

Sec. 116. Except as otherwise provided in sections 119 (c), (e), and (f)(as in effect before the date of the enactment of the Clean Air Act Amendments of 1977), 209, 211(c)(4), and 233 (preempting certain State regulation of moving sources) nothing in this Act shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 111 or 112, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section.

40 CFR PART 60, Subpart B

60.21 Definitions.

(a) Designated pollutant means any air pollutant, the emissions of which are subject to a standard of performance for new stationary sources, but for which air quality criteria have not been issued and that is not included on a list published under § 108(a) of the Act. Designated pollutant also means any air pollutant, the emissions of which are subject to a standard of performance for new stationary sources,

that is on the § 112(b)(1) list and is emitted from a facility that is not part of a source category regulated under § 112. Designated pollutant does not include pollutants on the § 112(b)(1) list that are emitted from a facility that is part of a source category regulated under § 112.

(b) Designated facility means any existing facility (see Sec. 60.2(aa)) which emits a designated pollutant and which would be subject to a standard of performance for that pollutant if the existing facility were an affected facility (see Sec. 60.2(e)).

(c) Plan means a plan under section 111(d) of the Act which establishes emission standards for designated pollutants from designated facilities and provides for the implementation and enforcement of such emission standards.

(f) Emission standard means a legally enforceable regulation setting forth an allowable rate of emissions into the atmosphere, establishing an allowance system, or prescribing equipment specifications for control of air pollution emissions.

(k) Allowance system means a control program under which the owner or operator of each designated facility is required to hold an authorization for each specified unit of a designated pollutant emitted from that facility during a specified period and which limits the total amount of such authorizations available to be held for a designated pollutant for a specified period and allows the transfer of such authorizations not used to meet the authorization-holding requirement.

60.24 Emission standards and compliance schedules.

(a) Each plan shall include emission standards and compliance schedules.

(b)(1) Emission standards shall either be based on an allowance system or prescribe allowable rates of emissions except when it is clearly impracticable. Such cases will be identified in the guideline documents issued under Sec. 60.22. Where emission standards prescribing equipment specifications are established, the plan shall, to the degree possible, set forth the emission reductions achievable by implementation of such specifications, and may permit compliance by the use of equipment determined by the State to be equivalent to that prescribed.

(2) Test methods and procedures for determining compliance with the emission standards shall be specified in the plan. Methods other than those specified in appendix A to this part may be specified in the plan if shown to be equivalent or alternative methods as defined in Sec. 60.2 (t) and (u).

(3) Emission standards shall apply to all designated facilities within the State. A plan may contain emission standards adopted by local jurisdictions provided that the standards are enforceable by the State.

(c) Except as provided in paragraph (f) of this section, where the Administrator has determined that a designated pollutant may cause or contribute to endangerment of public health, emission standards shall be no less stringent than the corresponding emission guideline(s) specified in subpart C of this part, and final compliance shall be required as expeditiously as practicable but no later than the compliance times specified in subpart C of this part.

(d) Where the Administrator has determined that a designated pollutant may cause or contribute to endangerment of public welfare but that adverse effects on public health have not been demonstrated, States may balance the emission guidelines, compliance times, and other information provided in the applicable guideline document against other factors of public concern in establishing emission standards, compliance schedules, and variances. Appropriate consideration shall be given to the factors specified in Sec. 60.22(b) and to information presented at the public hearing(s) conducted under Sec. 60.23(c).

(e)(1) Any compliance schedule extending more than 12 months from the date required for submittal of the plan must include legally enforceable increments of progress to achieve compliance for each designated facility or category of facilities. Unless otherwise specified in the applicable subpart, increments of progress must include, where practicable, each increment of progress specified in Sec. 60.21(h) and must include such additional increments of progress as may be necessary to permit close and effective supervision of progress toward final compliance.

(2) A plan may provide that compliance schedules for individual sources or categories of sources will be formulated after plan submittal. Any such schedule shall be the subject of a public hearing held according to Sec. 60.23 and shall be submitted to the Administrator within 60 days after the date of adoption of the schedule but in no case later than the date prescribed for submittal of the first semiannual report required by Sec. 60.25(e).

(f) Unless otherwise specified in the applicable subpart on a case-by-case basis for particular designated facilities or classes of facilities, States may provide for the application of less stringent emissions standards or longer compliance schedules than those otherwise required by paragraph (c) of this section, provided that the State demonstrates with respect to each such facility (or class of facilities):

(1) Unreasonable cost of control resulting from plant age, location, or basic process design;

(2) Physical impossibility of installing necessary control equipment; or

(3) Other factors specific to the facility (or class of facilities) that make application of a less stringent standard or final compliance time significantly more reasonable.

(g) Nothing in this subpart shall be construed to preclude any State or political subdivision thereof from adopting or enforcing (1) emission standards more stringent than emission guidelines specified in subpart C of this part or in applicable guideline documents or (2) compliance schedules requiring final compliance at earlier times than those specified in subpart C or in applicable guideline documents.

(h) Each of the States identified in paragraph (h)(1) of this section shall be subject to the requirements of paragraphs (h)(2) through (7) of this section.

(1) . . . Virginia . . . may each, submit a State plan meeting the requirements of paragraphs (h)(2) through (7) of this section and the other applicable requirements for a State plan under this subpart.

(2) The State's State plan under paragraph (h)(1) of this section must be submitted to the Administrator by no later than November 17, 2006. The State shall deliver five copies of the State plan to the appropriate Regional Office, with a letter giving notice of such action.

(3) The State's State plan under paragraph (h)(1) of this section shall contain emission standards and compliance schedules and demonstrate that they will result in compliance with the State's annual electrical generating unit (EGU) mercury (Hg) budget for the appropriate periods. The amount of the annual EGU Hg budget, in tons of Hg per year, shall be as follows, for the indicated State for the indicated period:

	Annual EGU Hg budget (tons)	
State	2010-2017	2018 and thereafter
. . . Virginia	0.592	0.234

. . . ----------

(4) Each State plan under paragraph (h)(1) of this section shall require EGUs to comply with the monitoring, record keeping, and reporting provisions of part 75 of this chapter with regard to Hg mass emissions.

(5) In addition to meeting the requirements of 60.26, each State plan under paragraph (h)(1) of this section must show that the State has legal authority to:

(i) Adopt emissions standards and compliance schedules necessary for attainment and maintenance of the State's relevant annual EGU Hg budget under paragraph (h)(3) of this section; and

(ii) Require owners or operators of EGUs in the State to meet the monitoring, record keeping, and reporting requirements described in paragraph (h)(4) of this section.

(6)(i) Notwithstanding the provisions of paragraphs (h)(3) and (5)(i) of this section, if a State adopts regulations substantively identical to subpart HHHH of this part (Hg Budget Trading Program), incorporates such subpart by reference into its regulations, or adopts regulations that differ substantively from such subpart only as set forth in paragraph (h)(6)(ii) of this section, then such allowance system in the State's State plan is automatically approved as meeting the requirements of paragraph (h)(3) of this section, provided that the State demonstrates that it has the legal authority to take such action and to implement its responsibilities under such regulations.

(ii) If a State adopts an allowance system that differs substantively from subpart HHHH of this part only as follows, then the emissions trading program is approved as set forth in paragraph (h)(6)(i) of this section.

(A) The State may decline to adopt the allocation provisions set forth in 60.4141 and 60.4142 and may instead adopt any methodology for allocating Hg allowances.

(B) The State's methodology under paragraph (h)(6)(ii)(A) of this section must not allow the State to allocate Hg allowances for a year in excess of the amount in the State's annual EGU Hg budget for such year under paragraph (h)(3) of this section;

(C) The State's methodology under paragraph (h)(6)(ii)(A) of this section must require that, for EGUs commencing operation before January 1, 2001, the State will determine, and notify the Administrator of, each unit's allocation of Hg allowances by October 31, 2006 for 2010, 2011, and 2012 and by October 31, 2009 and October 31 of each year thereafter for the fourth year after the year of the notification deadline; and

(D) The State's methodology under paragraph (h)(6)(ii)(A) of this section must require that, for EGUs commencing operation on or after January 1, 2001, the State will determine, and notify the Administrator of, each unit's allocation of Hg allowances by October 31 of the year for which the Hg allowances are allocated.

(7) If a State adopts an allowance system that differs substantively from subpart HHHH of this part, other than as set forth in paragraph (h)(6)(ii) of this section, then such allowance system is not automatically approved as set forth in paragraph (h)(6)(i) or (ii) of this section and will be reviewed by the Administrator for approvability in accordance with the other provisions of paragraphs (h)(2) through (5) of this section and the other applicable requirements for a State plan under this subpart, provided that the Hg allowances issued under such allowance system shall not, and the State plan under paragraph (h)(1) of this section shall state that such Hg allowances shall not, qualify as Hg allowances under any allowance system approved under paragraph (h)(6)(i) or (ii) of this section.

(8) The terms used in this paragraph (h) shall have the following meanings:

“Administrator” means the Administrator of the United States Environmental Protection Agency or the Administrator's duly authorized representative.

“Allocate” or “allocation” means, with regard to Hg allowances, the determination of the amount of Hg allowances to be initially credited to a source.

“Boiler” means an enclosed fossil-or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

“Bottoming-cycle cogeneration unit” means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.

“Coal” means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials (ASTM) Standard Specification for Classification of Coals by Rank D388-77, 90, 91, 95, 98a, or 99 (Reapproved 2004) (incorporated by reference, see 60.17).

“Coal-derived fuel” means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal, or chemical processing of coal.

“Coal-fired” means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

“Cogeneration unit” means a stationary, coal-fired boiler or stationary, coal-fired combustion turbine:

(1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and

(2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after which the unit first produces electricity:

(i) For a topping-cycle cogeneration unit,

(A) Useful thermal energy not less than 5 percent of total energy output; and

(B) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output.

(ii) For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input.

“Combustion turbine” means:

(1) An enclosed device comprising a compressor, a combustion, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustion passes through the turbine, rotating the turbine; and

(2) If the enclosed device under paragraph (1) of this definition is combined cycle, any associated heat recovery steam generator and steam turbine.

“Commence operation” means to have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber.

“Electric generating unit” or “EGU” means:

(1) Except as provided in paragraph (2) of this definition, a stationary, coal-fired boiler or stationary, coal-fired combustion turbine in the State serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 megawatts electric (MW) producing electricity for sale.

(2) For a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continues to qualify as a cogeneration unit, a cogeneration unit in the State serving at any time a generator with nameplate capacity of more than 25 MW and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale. If a unit qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to paragraph (1) of this definition starting on the day on which the unit first no longer qualifies as a cogeneration unit.

“Generator” means a device that produces electricity.

“Gross electrical output” means, with regard to a cogeneration unit, electricity made available for use, including any such electricity used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

“Gross thermal energy” means, with regard to a cogeneration unit, useful thermal energy output plus, where such output is made available for an industrial or commercial process, any heat contained in condensate return or makeup water.

“Heat input” means, with regard to a specified period of time, the product (in million British thermal units per unit time, MMBTU/time) of the gross calorific value of the fuel (in Btu per pound, Btu/lb) divided by 1,000,000 Btu/MMBTU and multiplied by the fuel feed rate into a combustion device (in lb of fuel/time), as measured, recorded, and reported to the Administrator by the Hg designated representative and determined by the Administrator in accordance with 60.4170 through 60.4176 and excluding the heat derived from preheated combustion air, reticulated flue gases, or exhaust from other sources.

“Hg allowance” means a limited authorization issued by the permitting authority to emit one ounce of Hg during a control period of the specified calendar year for which the authorization is allocated or of any calendar year thereafter.

“Life-of-the-unit, firm power contractual arrangement” means a unit participation power sales agreement under which a customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy generated by any specified unit and pays its proportional amount of such unit's total costs, pursuant to a contract:

(1) For the life of the unit;

(2) For a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

(3) For a period no less than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

“Maximum design heat input” means, starting from the initial installation of a unit, the maximum amount of fuel per hour (in Btu/hr) that a unit is capable of combusting on a steady-state basis as specified by the manufacturer of the unit, or, starting from the completion of any subsequent physical change in the unit resulting in a decrease in the maximum amount of fuel per hour (in Btu per hour, Btu/hr) that a unit is capable of combusting on a steady-state basis, such decreased maximum amount as specified by the person conducting the physical change.

“Nameplate capacity” means, starting from the initial installation of a generator, the maximum electrical generating output (in MW) that the generator is capable of producing on a steady-state basis and during continuous operation (when not restricted by seasonal or other derates) as specified by the manufacturer of the generator or, starting from the completion of any subsequent physical change in the generator resulting in an increase in the maximum electrical generating output (in MW) that the generator is capable of producing on a steady-state basis and during continuous operation (when not restricted by seasonal or other derates), such increased maximum amount as specified by the person conducting the physical change.

“Operator” means any person who operates, controls, or supervises an EGU or a source that includes an EGU and shall include, but not be limited to, any holding company, utility system, or plant manager of such EGU or source.

“Ounce” means 2.84 x 107 micrograms.

“Owner” means any of the following persons:

(1) With regard to a Hg Budget source or a Hg Budget unit at a source, respectively:

(i) Any holder of any portion of the legal or equitable title in a Hg Budget unit at the source or the Hg Budget unit;

(ii) Any holder of a leasehold interest in a Hg Budget unit at the source or the Hg Budget unit; or

(iii) Any purchaser of power from a Hg Budget unit at the source or the Hg Budget unit under a life-of-the-unit, firm power contractual arrangement; provided that, unless expressly provided for in a leasehold agreement, owner shall not include a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based (either directly or indirectly) on the revenues or income from such Hg Budget unit; or

(2) With regard to any general account, any person who has an ownership interest with respect to the Hg allowances held in the general account and who is subject to the binding agreement for the Hg authorized account representative to represent the person's ownership interest with respect to Hg allowances.

“Potential electrical output capacity” means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu per kilowatt-hour (Btu/kWh), divided by 1,000 kWh per megawatt-hour (kWh/MWh), and multiplied by 8,760 hr/yr.

“Sequential use of energy” means:

(1) For a topping-cycle cogeneration unit, the use of reject heat from electricity production in a useful thermal energy application or process; or

(2) For a bottoming-cycle cogeneration unit, the use of reject heat from useful thermal energy application or process in electricity production.

"Source" means all buildings, structures, or installations located in one or more contiguous or adjacent properties under common control of the same person or persons.

"State" means:

(1) For purposes of referring to a governing entity, one of the States in the United States, the District of Columbia, or, if approved for treatment as a State under part 49 of this chapter, the Navajo Nation or Ute Indian Tribe that adopts the Hg Budget Trading Program pursuant to 60.24(h)(6); or

(2) For purposes of referring to a geographic area, one of the States in the United States, the District of Columbia, the Navajo Nation Indian country, or the Ute Tribe Indian country.

"Topping-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

"Total energy input" means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself.

"Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

"Unit" means a stationary coal-fired boiler or a stationary coal-fired combustion turbine.

"Useful power" means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).

"Useful thermal energy" means, with regard to a cogeneration unit, thermal energy that is:

(1) Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;

(2) Used in a heat application (e.g., space heating or domestic hot water heating); or

(3) Used in a space cooling application (i.e., thermal energy used by an absorption chiller).

"Utility power distribution system" means the portion of an electricity grid owned or operated by a utility and dedicated to delivering electricity to customers.